BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Widening of Attur Road from Major Sandeeep Unnikrishanan Road to Attur IPP Hospital Road in ward No.03

Est Cost: 100 Lakh

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	KSRRB M200-13.1. **Dismantling of existing structures** like culverts, Bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceble material and stacking the serviceble material with all lifts complete as per specifications. II. By mechanical means, A. **Cement concrete Grade M-15 & M-20** (P.No.136, I.No.18.20 of PW,P&IWTD SR 2015-16)								
	Damaged Concrete Slab								
	LHS		1	50.00	1.20	0.10	6.00		
	RHS		1	50.00	1.20	0.10	6.00		
	Culvert Slabs		3	7.00	1.50	0.25	7.88		
							19.88	469.37	**9331.08**
2	KSRRB M200-15.2. **Dismantling of existing structures** like culverts, Bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceble material and stacking the serviceble material with all lifts complete as per specifications. iii) Dismantling Stone Masonry B. Rubble Stone maonry in cement mortar (P.No.137, I.No.18.27 of PW,P&IWTD SR 2015-16)							370.33	
	Dismantling of existing SSM Culverts	Cum	12	6.00	0.45	0.90	**29.16**	250.56	**7306.33**
3	Removing and Resetting of Footpath Slab (P.No.258, I.No.37.56 of PW, P&IWTD SR 2015-16)								
	Drain Cover	Sqm							
	LHS		1	450.00	1.20	--	540.00		
			1	80.00	1.50	--	120.00		
	RHS		1	490.00	1.20	--	588.00		
							1248.00	126.36	**157697.28**
4	Removing B.S Slab of Drain and Stacking (P.No.25, I.No.5.32 of PW, P&IWTD SR 2015-16)								
	BS Slab Cover	Sqm							
	Culvert Slabs		4	6.00	1.50	--	36.00	63.72	**2293.92**
5	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.133, I.No.19.1 of PW, P&IWTD SR 2015-16)								
	Desilt	Cum							
	LHS		1	580.00	0.60	0.50	174.00		
	RHS		1	580.00	0.60	0.50	174.00		
	Culvert		6	6.00	1.50	0.20	10.80		
							358.80	187.01	**67099.19**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
6	Refixing Stone Slabs of Drains and pointing in C.M (1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2015-16)								
	BS Slab Cover	Sqm							
	Culvert Slabs		4	6.00	1.50	--	**36.00**	78.84	**2838.24**
7	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2015-16)								
	Bed Concrete	Cum							
	Culverts		6.00	6.00	1.50	0.15	**8.10**	5236.92	**42419.05**
8	KSRB 5.2-3: Providing and constructing **granite size stone masonry** in foundation cement mortor 1:6, stone hammered dressed in courses not less than 20cms high, bond stones at 2m. apart in each course including cost of materaials, labour, curing complete as per specifications. Specifcation No. KBS 5.1.13.(using available stones) (P.No.23, I.No.5.6 of PW, P&IWTD S.R 2015-16)								
	SSM Culvert	Cum							
	Culvert		10.00	6.00	0.45	0.90	**24.30**	2709.72	**65846.20**
9	KSRB 5.2-3: Providing and constructing granite size stone masonry in foundation cement mortor 1:6, stone hammered dressed in courses not less than 20cms high, bond stones at 2m. apart in each course including cost of materaials, labour, curing complete as per specifications. Specifcation No. KBS 5.1.13. (P.No.23, I.No.5.6 of PW, P&IWTD S.R 2015-16)								
	Damaged Portion	Cum							
	Raising of Culvert	2	4	6.00	0.45	0.45	9.72		
	culvert		2	6.00	0.45	0.90	4.86		
	Damaged Drain		4	20.00	0.45	0.45	16.20		
							30.78	4135.32	**127285.15**
10	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.6 of PW,P&IWTD S.R 2015-16)								
	Coping	Cum							
	Raising of Culvert	2.00	4.00	6.00	0.45	0.075	1.62		
	damaged Culvert	2.00	6.00	20.00	0.45	0.075	8.10		
	Damaged Drain		4.00	20.00	0.45	0.075	2.70		
	Coping		4.00	185.00	0.45	0.075	24.98		
							37.40	5490.72	**205352.93**
11	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Cover Slab	Sqm							
	LHS		1	50.00	1.20	--	60.00		
			1	20.00	1.50	--	30.00		
	RHS		1	50.00	1.20	--	60.00		
							150.00	1760.00	**264000.00**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
12	Providing and fixing **RCC Precast cover slab of 250mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Culvert Slab	Sqm							
	Damaged Slabs		6.00	6.00	1.50	--	**54.00**	5125.00	**276750.00**
13	Providing and fixing Pre cast solid concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including formwork, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc., complete (P.No.25, I.No.5.30 of PW,P&IWTD S.R 2015-16)								
	For Road Kerb	No.							
	LHS		1	165.00	--	/0.45	367.00		
	RHS		1	150.00	--	/0.45	333.00		
							700.00	320.76	**224532.00**
14	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (P.No.179, I.No. 24.1 of PW,P&IWTD SR 2015-16)								
	For Kerb Painting	Sqm							
	LHS		1	600.00	--	0.35	210.00		
	RHS		1	600.00	--	0.35	210.00		
							420.00	61.56	**25855.20**
15	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.142, I.No.19.14 of PW,P&IWTD S.R 2015-16)								
	Road Portion	Cum							
	Ch 0 - 20		1	20.00	7.80	0.55	85.80		
	Ch 20 - 250		1	230.00	7.20	0.55	910.80		
	Ch 250 - 400		1	150.00	7.80	0.55	643.50		
	Ch 400 - 600		1	200.00	8.70	0.55	957.00		
							2597.10	152.45	**395927.90**
16	KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3(P.No.148, I.No.19.64 of PW,P&IWTD S.R 2015-16)								
	Road Portion	Sqm							
	Ch 0 - 20		1	20.00	7.80	--	156.00		
	Ch 20 - 250		1	230.00	7.20	--	1656.00		
	Ch 250 - 400		1	150.00	7.80	--	1170.00		
	Ch 400 - 600		1	200.00	8.70	--	1740.00		
							4722.00	4.86	**22948.92**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
17	KSRRB M300-59.1. Loosening of the ground upto a level of 500mm below the subgrade level, watered, graded and compacted in layers to meet requirement of Table 300-2 for subgrade construction complete as per specifications. Case-I:Compacting original ground supporting subgrade, (which includes watering charges & compaction by vibratory roller) MORTH Specification No. 305.3.4(P.No.148, I.No.19.65 of PW,P&IWTD S.R 2015-16)								
	Road Portion	Sqm							
	Road Cut Portion								
	Ch 0 - 20		1	20.00	2.20	0.50	22.00		
	Ch 20 - 250		1	230.00	2.20	0.50	253.00		
	Ch 250 - 400		1	150.00	2.20	0.50	165.00		
	Ch 400 - 600		1	200.00	2.20	0.50	220.00		
							660.00	56.16	**37065.60**
18	KSRRB M400-6.2: Construction of granular sub-base by providing Close graded material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with mortar grader on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per specifications. A Plant Mix methad For Grading II Material (P.No.154, I.No.20.4.2 of PW,P&IWTD SR 2015-16)								
	Road Portion	Cum							
	Ch 0 - 20		1	20.00	7.80	0.20	31.20		
	Ch 20 - 250		1	230.00	7.20	0.20	331.20		
	Ch 250 - 400		1	150.00	7.80	0.20	234.00		
	Ch 400 - 600		1	200.00	8.70	0.20	348.00		
							944.40	1622.16	**1531967.90**
19	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.157, I.No.20.18 of PW,P&IWTD SR 2015-16)								
	Road Portion	Cum							
	Ch 0 - 20		1.00	20.00	7.80	0.25	39.00		
	Ch 20 - 250		1.00	230.00	7.20	0.25	414.00		
	Ch 250 - 400		1.00	150.00	7.80	0.25	292.50		
	Ch 400 - 600		1.00	200.00	8.70	0.25	435.00		
							1180.50	1713.96	**2023329.78**
20	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.160, I.No.21.6 of PW,P&IWTD SR 2015-16)								
	Road Portion	Cum							
	Ch 0 - 20		1.00	20.00	7.80	--	156.00		
	Ch 20 - 250		1.00	230.00	7.20	--	1656.00		
	Ch 250 - 400		1.00	150.00	7.80	--	1170.00		
	Ch 400 - 600		1.00	200.00	8.70	--	1740.00		
							4722.00	32.40	**152992.80**
21	KSRRB 500-2: Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatement including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH Spec, Chapter 5 (P.No.160, I.No.21.2 of PW,P&IWTD SR 2015-16)								
	Road Formation	Sqm							
	Ch 0 - 20		1	20.00	7.80	--	156.00		
	Ch 20 - 250		1	230.00	7.20	--	1656.00		
	Ch 250 - 400		1	150.00	7.80	--	1170.00		
	Ch 400 - 600		1	200.00	8.70	--	1740.00		

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	For Bell Mouth at Cross road Approach		10	5.00	6.00	--	300.00		
	deduct prime Coat for Bad Reaches		--	--	--	--	-4722.00		
							300.00	3.24	**972.00**
22	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.160 I.No.21.7 of PW,P&IWTD SR of 2015-16)								
	For Laying DBM	Sqm							
	Ch 0 - 20		1	20.00	7.80	--	156.00		
	Ch 20 - 250		1	230.00	7.20	--	1656.00		
	Ch 250 - 400		1	150.00	7.80	--	1170.00		
	Ch 400 - 600		1	200.00	8.70	--	1740.00		
	For Laying BC								
	Ch 0 - 20		1.00	20.00	7.80	--	156.00		
	Ch 20 - 250		1.00	230.00	7.20	--	1656.00		
	Ch 250 - 400		1.00	150.00	7.80	--	1170.00		
	Ch 400 - 600		1.00	200.00	8.70	--	1740.00		
	For Bell Mouth at Cross road Approach		10.00	5.00	6.00	--	300.00		
							9744.00	15.12	**147329.28**
23	KSRRB M500-16. Providing and laying dense bituminous macadam 50-75mm compacted thickness with 4.5% VG-30 Bitumen using 40/60 TPH capacity H.M.P, using crushed aggregates of grading II, premixed with VG 30 grade bituminous binder and transporting the hot mix to work site, laying with mechanical paver to the required grade level and alignment rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10, complete in all respects complete as per specification MORTH specification No. 507 (P.No.162 I.No. 21.17.6 of PW,P&IWTD S.R 2015-16)								
	For Laying DBM	Cum							
	Ch 0 - 20		1.00	20.00	7.80	0.05	7.80		
	Ch 20 - 250		1.00	230.00	7.20	0.05	82.80		
	Ch 250 - 400		1.00	150.00	7.80	0.05	58.50		
	Ch 400 - 600		1.00	200.00	8.70	0.05	87.00		
							236.10	7927.20	**1871611.92**
24	KSRRB M500-19. Providing and laying bituminous concrete 40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 6% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.164 of I.No.21.22.6 in PW,P&IWTD S.R 2015-16)								
	Road Formation	Cum							
	Ch 0 - 20		1.00	20.00	7.80	0.04	6.24		
	Ch 20 - 250		1.00	230.00	7.20	0.04	66.24		
	Ch 250 - 400		1.00	150.00	7.80	0.04	46.80		
	Ch 400 - 600		1.00	200.00	8.70	0.04	69.60		
	For Bell Mouth at Cross road Approach		10.00	5.00	6.00	0.04	12.00		
							200.88	9822.60	**1973163.89**
25	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.181, I.No.24.15 of PW,P&IWTD SR 2015-16)								
		Sqm							
	Center lane Marking		0.5	600.00	0.15	--	45.00		
	Edge line		2	600.00	0.15	--	180.00		
							225.00	473.04	**106434.00**

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
26	Providing and fixing of **Reflective Raised Pavement marker (RPM's) / Cat eyes** / Road studs confirming to ASTM D4280 type H, having reflective panels made of prismatic lens of total internal reflection, the prismatic lens should be electronically fixed (welded) to the body made of polycarbonate mould, with a height of 20mm, size of 130mm x 105mm and reflecting area of 13sqm with the slope of retro reflective surface within the limit of 35 + 5 degree to the base on either side. The marker shape II display an initial minimum luminous intensity of 279mcd/ lux at an entrance angle of zero degree and observation angle of 0.2 degree. The corresponding values for 20 degree entrance and 0.2 degree observation angle shall be 112 mcd / lux with color multiplying factor on either cases for white, yellow and red markers being 1.0, 0.6 and 0.25 respectively. The RPM's should be fixed by using two numbers of polymer shanks using appropriate adhesive as recommended and certified by the RPM manufacturer. The raised pavement marker should support a sufficient minimum load 13635 Kg in accordance with ministry specification..(P.No.293, I.No.38.32 of PW,P&IWTD SR 2015-16)								
	Cat Eyes at road intersetion	Nos	1	150	--	--	**150.00**	324.00	**48600.00**
	At 5m interval								
								Total Construction Cost	**9790950.56**
27								**Cost towards Preparation of DPR LS**	**58746.00**
28								**Cost towards PMC / Third Party inspection LS**	**146865.00**
								Sub Total	**9996561.56**
29								**Miscellaneous and rounding off**	**3438.44**
								Total	**10000000.00**

Certificate.

1 The workspot was inspected and work is found to be necessary.
2 The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3 The rates adopted based on the PWD SR, Bangalore circle for year 2015-16.
4 The provisions made in the estimate are necessary and essential.

For Tejus Consultants

Assistant Engineer

Assistant Executive Engineer

Executive Engineer

15/2/16

Yelahanka Zone
Bangalore

ADMINISTRATIVELY SANCTIONED FOR Rs 100.00 Lakhs
Rupees One hundred lakhs only
Administrative Approval
Under **Accorded For**
Head of A/C
CER NO : ..... **Dt:..**
Registered as EE ( ) No 9....9....
Subject to conditions contained in
enclosed memo EE ( ) No /9/...
Dt **TA / CE (YNK)** Estimate A/Sanctioned
JC(Y) AS /77 No.15-16
dated 15-2-2016 Rs 100.00 Lakhs

Joint Commissioner
(Yelahanka Zone)
BBMP, Bengaluru-92

Technical Sanction
Accorded For Rs.100.00 lakhs.
Head of A/C P-3089
CER NO : 109 **Dt:..** 16.02.16

TA **CE (YNK)**